

## REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated December 9, 2008. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

### Status of the Claims

Claims 1-9 and 13-21 are under consideration in this application. Claims 10-12 are being cancelled without prejudice or disclaimer. Claims 1-9 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim Applicants' invention. New claims 13-21 are being added. New claims 13-14 mirror claims 4-5.

All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

### Prior Art Rejection

Claims 1-12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takeda (U.S. Pat. No. 6,829,232) in view of the newly-cited Zhang et al. (US 6,982,978). This rejection has been carefully considered, but is most respectfully traversed, as more fully discussed below.

The connection management apparatus 5 (Fig. 5) to be coupled to a first gateway 15 belonging to a first network 1 and connecting to a first terminal, a second gateway 3 belonging to a second network 3 connecting to a second terminal (p. 15, lines 18-20) and a third gateway 2 belonging to a third network 2, comprising: a transmission/reception unit connectable to said first, second and third networks; and a CPU connected to said transmission/reception unit.

When a connection request issued from said first terminal to said second terminal is received by said transmission/reception unit, said CPU judges whether or not **a first connection directly between the first and second networks is permitted under a predetermined connection restriction between networks** to (p. 20, lines 20-22; p. 9, lines 6-10) be established from said first terminal to said second terminal. When said first connection is **not permitted to be established directly from said first network to said second network** as a result of said judgment, said CPU generates an address identifying a second connection including said first

gateway, said second gateway and said third gateway (i.e., a detour path, p. 21, lines 7-10), which are connectable from the first terminal to said second terminal, and then said CPU transmits a data containing said generated address from said transmission/reception unit to said first terminal, and transmits an address registration request containing said generated address from said transmission/reception unit to said first gateway and said third gateway for starting the second connection from said first terminal to said second terminal via said third gateway.

When a notification notifying that said second connection has finished is received by said transmission/reception unit from said first terminal, said CPU transmits an address deletion request contained in said address registration request from said transmission/reception unit to said first gateway and said third gateway (p. 20, line 20 to p. 33, line 11).

As recited in new claims 18-19, the predetermined connection restriction between networks is applicable to all terminals belonging to the networks. As recited in new claims 20-21, prior to establishing the second connection (i.e., the detour path), the authentication apparatus executes authentication of said first terminal and ensures that said first terminal is authorized to pass the first, second and third gateways constituting said second connection (p. 24, lines 13-19; *"transmits a detour authentication requirement 1209 to the client-1 10"*, Fig. 11; p. 21, line 3 to p. 22, line 8).

The present invention gives/defines addresses of terminals within respective network domains. When a user/terminal belonging to a first network tries to reach a second user/terminal belonging to a second network while a direct communication path across two networks is not permitted under a predetermined connection restriction between networks, a detour/second path (via a third gateway of a third network) is establish to connect the first and second terminals (p. 20, line 20 to p. 21, line 18). In addition, the user/terminal is authenticated with a password by a virtual private network (VPN) (p. 1, line 17 to p. 2, line 16; p. 9, lines 2-6).

The direct communication path across two networks is not permitted under a predetermined connection restriction between networks may be caused by the restrictions set between two ISPs (p. 3, lines 4-7), or a user terminal belonging to a first network travels into a second network which does not support the requested connection to a second terminal (p. 3, lines 7-12).

In contrast, Takeda only judges whether or not a communication path is permitted to be established based upon whether an address can be resolved by using e.g. a domain name system (DNS) within the same server 3a (col. 8, lines 32-67), rather than whether or not a first connection directly between the first and second networks is permitted under a predetermined connection restriction between networks (p. 20, lines 20-22; p. 9, lines 6-10) to be established

from said first terminal to said second terminal. In other words, Takeda judges based on resolvability of a destination address in the server 3a, rather any predetermined connection restriction between networks.

In particular, Takeda's server 3a only supports communication between an IP network and a service control point (SCP) by using the correspondence information between a telephone number of a terminal and an IP address stored in its memory 42 (Abstract).

When the source terminal and the destination terminal are located in two different areas, the telephone number of the destination terminal 9a is compared with the information stored in the memory 42 to determine the class of the destination terminal number (Step 54 in Fig. 5; col. 7, lines 56-60). If the destination terminal number is in the class in which its address CAN be resolved from the information stored in the memory 42, the IP address of the gateway corresponding to the destination terminal number or the IP address of the server which manages the gateway and the information of the channel for the call process are retrieved to perform a call setup process (Step 55 -> Step 64 in Fig. 5; col. 7, lines 61-67).

However, when the destination terminal number is in the class in which its address can NOT be resolved from the information stored in the memory 42 such that an inquiry to the IN is necessary, Takeda proceeds to processings regarding interrogation sent to other servers 3b and 3c (col. 8, lines 3-18). In other words, Takeda merely determines whether an address of a destination terminal number can be resolved from the information stored in the memory 42 of the server 3a to decide whether to interrogate other servers 3b and 3c for the address of the destination terminal number, but not to "determine whether a first connection is permitted under a predetermined connection restriction between networks be established from said first terminal to said second terminal" as in the present invention.

Regarding the feature of the second connection, as admitted by the Examiner (p. 4, 2<sup>nd</sup> para. of the outstanding Office Action), Takeda does not call for generating an address to establish a second connection. Zhang was relied upon by the Examiner to provide the missing teaching. However, Zhang establishes a substitution communication path, only when a communication path cannot be established due to the fact that the destination address is not contained within any ranges of the network addresses for currently accessible networks (col. 4, lines 63-65) for a particular user ("*a per-user routing table*", "*allows different users to have access to a different sets of networks*" Abstract). In other words, Zhang judges based on availability of a destination address per different users, rather any "**predetermined connection restriction between networks**" which is imposed upon all users of each one of the networks as in the present invention.

In addition, Zhang's substitution communication path is always established via a default gateway (col. 4, lines 63-66). On the other hand, the second connection (detour path) of the present invention is established only (1) after "determining that said first connection is not permitted *under a predetermined connection restriction between networks* to be established directly from said first network to said second network" and (2) "when the user is authorized to connect to all gateways within the detour path". As such, Zhang does not teach the second connection of the present invention.

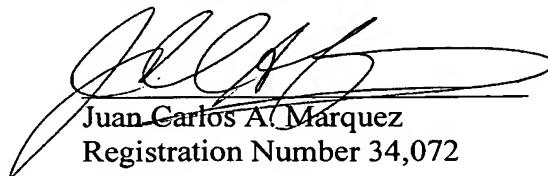
Applicants contend that the cited references and their combinations fail to teach or disclose each and every feature of the present invention as recited in at least independent claims 1 and 6. As such, the present invention as now claimed is distinguishable and thereby allowable over the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

#### Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention and the prior art references upon which the rejections in the Office Action rely, Applicant respectfully contends that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below.

Respectfully submitted,



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